

4/12/2006

FOR YOUR INFORMATION

2006-29/3-8

684413

To: Dassault Falcon Jet Corporation

Info: FAA (AFS-230, AFS-200, AFS-300, AFS-800, AFS-900, MKC-AEG), AASC, AIA, AMFA, AOPA, ASAP, GAMA, IAM, ICASS, NBAA, NTSB, PAMA, TWU

From: Linda J. Connell, Director
NASA Aviation Safety Reporting System

Re: AIRCRAFT COWL LATCH DESIGN CONFIGURATION

We recently received an ASRS report describing a safety concern which may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the enclosed deidentified report.

To properly assess the usefulness of our FYI service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Harvey Hartmann or Don Purdy at (408) 541-2800 or email at hhartmann@mail.arc.nasa.gov, dpurdy@mail.arc.nasa.gov.



Aviation Safety Reporting System
385 Moffet Park Dr · Suite 200 · Sunnyvale · CA · 94089



ACN: 684413

Time

Date : 200601

Day : Fri

Local Time Of Day : 0601 To 1200

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC

Aircraft / 1

Make Model : Falcon 50

Person / 1

Function.Maintenance : Technician

ASRS Report : 684413

Person / 2

Function.Maintenance : Technician

ASRS Report : 684616

Person / 3

Function.Maintenance : Technician

ASRS Report : 684414

Person / 4

Function.Flight Crew : First Officer

ASRS Report : 684417

Person / 5

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 684808

Person / 6

Function.Maintenance : Lead Technician

ASRS Report : 684905

Events

Anomaly.Aircraft Equipment Problem : Critical

Anomaly.Maintenance Problem : Improper Maintenance

Anomaly.Non Adherence : FAR

Anomaly.Non Adherence : Published Procedure

Independent Detector.Other.Flight CrewA : 5

Independent Detector.Other.Flight CrewB : 4

Resolatory Action.Flight Crew : Rejected Takeoff

Consequence.Other : Aircraft Damaged

Consequence.Other : Maintenance Action

Narrative

FALCON 50 WAS READY FOR DEP AND THE ENGS WERE STARTED. AFTER A SHORT PERIOD OF TIME, THE #2 ENG COMPUTER LIGHT ILLUMINATED. THE ENGS WERE SHUT DOWN AND A LAPTOP WAS CONNECTED TO THE #2 ENG COMPUTER. IT WAS DETERMINED THAT ONE OF THE TECHNICIANS MISTAKENLY CHANGED THE ENG MODEL FROM TFE731-3-1C TO TFE731-3D-1C. THIS WAS CORRECTED AND THE ENG RAN TO VERIFY CORRECT OPERATION. THE ACFT WAS CLRED TO CONTINUE IN SVC AND TAXIED TO THE END OF THE RWY. WHEN ENG POWER WAS BROUGHT UP, THE #2 ENG COWLS OPENED AND WERE CAUGHT IN #1 AND #3 ENG JET BLAST. THIS DAMAGED THE COWLS, ELEVATORS, ENG AFTERBODY, AND A STROBE BULLET FAIRING. THE ACFT TAXIED BACK TO THE RAMP WITH #1 AND #3 ENGS SHUT DOWN. INVESTIGATION REVEALED THAT THE #2 ENG COWL HAD BEEN OPENED DURING TROUBLESHOOTING AND HAD NOT BEEN PROPERLY LATCHED. I BELIEVE THIS HAPPENED DUE TO SELF IMPOSED PRESSURE TO RETURN THE ACFT TO SVC AS SOON AS POSSIBLE. THE TECHNICIANS AND PLTS MISSED THE LATCHES NOT BEING PROPERLY LOCKED IN THE CLOSED POSITION.

CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: THE RPTR STATED THAT THE COWLING LATCHES ON ALL THREE ENGS HAVE ALWAYS BEEN A PROBLEM DUE TO NO POSITIVE INDICATION THE LATCHES ARE LOCKED, ADDING THE #2 ENG COWLING IS HINGED AT THE TOP AND THE THREE LATCHES ARE LOCATED ON THE BOTTOM CTRLINE. REPORTEDLY, WHEN THE LATCHES ARE LOCKED, OR FALSE LOCKED, A CIRCULAR LATCH BUTTON SLIGHTLY LARGER THAN A QUARTER IS FLUSH WITH THE COWLING SURFACE. THE RPTR INDICATED WITH THE LATCHES UNLOCKED, THIS LARGE BUTTON PROTRUDES .750 TO 1 INCH BELOW THE COWLING SURFACE BUT IN THIS EVENT THE LATCH BUTTONS WERE PAINTED THE SAME COLOR AS THE AIRPLANE LOWER SURFACE AND DIFFICULT TO OBSERVE.

SUPPLEMENTAL INFO FROM ACN 684616: ON DEP ACFT HAD A ENG COMPUTER LIGHT ON #2 ENG. ACFT WAS PULLED BACK INTO HANGAR AND REPAIRED COMPUTER FAULT. ACFT WAS PUSHED BACK, LOADED CREW AND PAX, STARTED ENGS AND TAXIED OUT. CREW CALLED ON RADIO AND REPORTED LOUD BANGING SOUND IN REAR OF ACFT. TAXIED BACK TO HANGAR AND FOUND #2 ENG COWLING HAD NOT BEEN LOCKED AND DAMAGED COWLING FROM JET BLAST OF #1 AND #3 ENGS.

CALLBACK CONVERSATION WITH RPTR 684616 REVEALED THE FOLLOWING INFO: THE RPTR STATED THAT THE LATCHES WERE EITHER FALSE LATCHED OR NOT LATCHED CORRECTLY. THE RPTR STATED THERE IS NOT ENOUGH LATCH EXTENSION WHEN UNLOCKED TO DETERMINI IF THE COWLING IS LOCKED UNLESS STANDING DIRECTLY UNDER THE LATCH. THE RPTR INDICATED EVENTS OF #2 COWLINGS OPENING WITH JET BLAST FROM #1 AND #3 ENG HAS HAPPENED BEFORE AT THIS STATION AND CAUSED EXTENSIVE DAMAGE TO THE AIRPLANE.

SUPPLEMENTAL INFO FROM ACN 684414: FALCON 50 WAS ON THE RAMP WITH PAX ON BOARD WHEN THE FAULT ON THE #2 ENG WAS DETECTED BY THE CREW. A DEEC DOWNLOAD WAS PERFORMED AND FAULT CODES WERE FOUND. ONE OF THE CODES INDICATED THAT THE ENG P/N AND TYPE STORED IN THE DEEC WAS INCORRECT. THE #2 ENG COWLINGS WERE THEN OPENED TO GET THE P/N OFF THE ENG DATA PLATE. AFTER CORRECTIONS WERE MADE TO THE DEEC PROGRAMMING, THE ACFT WAS BACKED OUT OF THE HANGAR AND THE #2 ENG WAS STARTED TO VERIFY THAT THE FAULT HAD BEEN CORRECTED. THE ACFT WAS THEN RELEASED TO THE CREW. WHEN THE #1 AND #3 ENGS WERE TAKEN TO POWER PRIOR TO TKOF, THE #2 ENG COWLINGS WERE CAUGHT IN THE JET BLAST, CAUSING DAMAGE TO THE ACFT. THE ENG COWLINGS HAD NOT BEEN LATCHED AFTER THEY WERE OPENED. TO CORRECT THIS PROBLEM IN THE FUTURE, A FINAL WALK AROUND INSPECTION WILL BE PERFORMED BEFORE THE ACFT IS RELEASED FROM MAINT.

CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: THE RPTR STATED THE LATCH BUTTONS ARE DIFFICULT TO SEE IF UNLOCKED BEING PAINTED THE SAME COLOR OF THE LOWER FUSELAGE. RPTR NOTED THAT THE MANUFACTURER ISSUED A SVC ADVISORY WITH AN ILLUSTRATION OF TWO LATCH BUTTONS THAT WERE FLUSH WITH THE LOWER SURFACE OF THE COWLING BUT WERE FALSE LATCHED. THE RPTR INDICATED THAT THIS COWLING SEPARATED FROM THIS AIRPLANE.

Synopsis

WHEN THE ENG WAS BROUGHT UP TO TKOF POWER ON A FA50, THE #2 CENTER ENG COWLING OPENED, DAMAGING COWLING, ELEVATORS, AND ENG AFTERBODY. RPTRS NOTE LATCH DESIGN CONTRIBUTED TO THE INCIDENT.